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10/573,221	03/24/2006	Stephan Simon	101914260	5010

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EXAMINER	
WOLDEMARIAM, AKILILU K	
ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,221	SIMON ET AL.	
	Examiner	Art Unit	
	AKLILU k. WOLDEMARIAM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/27/2008, 03/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 05/27/2008 was filed after the mailing date of 05/27/2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2-3 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. For example, in claim 2, claim limitations, lines 2-4, *"the increase in value (110,120) and/or decrease in value (110,120) is performed as a function of the absolute quality of the confidence parameter." This claim limitation does not have three separates embodiment to enable claim invention as described in original specification, [see paragraph [0009], [0011] and [0023]].*

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 5 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, in claim 5, claim limitation, line 1, "the method as recited in one of claims 1 to 4." It is not clear that claim 5 depends on 1 or 2 or 3 or 4. Therefore, the claim invention is indefinite.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-10 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent[1] and recent Federal Circuit decisions[2] indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. Method claim is an abstract idea without a machine. For example in clam 7, method comprises increasing the value of a the confidence parameter , decreasing the value of the confidence parameter and generating a final classification is of insufficient

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[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

breadth that it would be reasonably interpreted as a series of steps completely preformed mentally, verbally or without a particular machine.

Claim Objections

8. Claims 1-10 are objected to because of Applicant claimed a method for evaluation and stabilization over time of classification as single invention. Examiner considered two different inventions evaluation and stabilization overtime of classification. Therefore, appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Simon et al., "Simon" (U.S. Publication number 2006/0041381A1)

Regarding claim 8, [*claim examined as best understood by examiner],* *Simon discloses* a method for evaluation and stabilization over time of classification results from classification methods (100) which proceed in computer-assisted fashion and in which objects (206) to be classified are sensed using sensors over a period of Time (see paragraph *[0034] object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects. Those*

objects are then, in the next block 30, tracked using data from the object classification and object detection systems and paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object and paragraph [0054] the initial states, made available by way of real-time sensor information, of the first and further objects), and are repeatedly classified with the inclusion of specific quality parameters for each object class *(see paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object)*, characterized by the steps of

a) increasing the value (110, 120) of a confidence parameter calculated from the quality parameters if a subsequent classification confirms the result of a previous classification *(see paragraph [0004] classification of object and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object);*

b) decreasing the value (110, 120) of the confidence parameter if a subsequent classification does not confirm the result of a previous classification (see paragraph [0034] classification of objects and paragraph [0041] *this uncertainty is caused, for example, by measurement errors. It tends to decrease as time proceeds, since the number of observations rises and the measurement errors likewise become small for a smaller object distance);*

c) generating (150) a final classification result including the confidence parameters that have been increased or decreased in value (*see paragraph [0034] Object detection system 28 introduces the object detection data into a classification module 29 in order to classify the surrounding objects. Those objects are then, in the next block 30, tracked using data from the object classification and object detection systems and paragraph [0057] the quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 2, *[Claim examined as best understood by examiner], Simon discloses* the method as recited in Claim 1, in which the increase in value (ii0, 120) and/or decrease in value (110, 120) is performed as a function of the absolute quality of the confidence parameter (see *paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the*

accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).

Regarding claim 3*, [claim examined as best understood by examiner], Simon discloses* the method as recited in Claim 1, in which the absolute quality of the respective individual results of the classification (100) is included in the increase in value (110, 120) and/or decrease in value (110, 120) of the respective confidence parameters in weighted fashion with reference to the individual object classes (see *paragraph [0004] classification and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 4, *Simon discloses* the method as recited in Claim 1, in which the permissible value range for the confidence parameters increased or decreased in value is limited (140) (see *paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 5, *Simon discloses* the method as recited in one of Claims 1 to 4, containing the additional step of evaluative analysis of the calculated confidence parameters to determine (150) a final, detailed classification result (*see paragraph [0004] classification and paragraph [0057] The quality of the method according to the present invention can be enhanced by improving these input parameters. For example, using the object class as an input parameter increases the accuracy of the collision and hazard probabilities. This is because physical boundaries of the individual objects reduce the number of possible future positions of the respective object).*

Regarding claim 6, *Simon discloses* the method as recited in Claim 5, in which an alternation of the classification results between specific object classes is evaluated as a classification (150) into a higher-order class than those object classes *(see paragraph [0004] From an optional classification function, the method according to the present invention receives the object types--e.g. pedestrian, bicyclist, small motor vehicle, medium motor vehicle, large motor vehicle or truck--in order to determine, using that information and a predefined dynamic vehicle model (one for each specific vehicle class, and optionally as a function of a vehicle behavior model), the collision probability and hazard probability. Each object has a dynamic model of this kind assigned to it, so that the future behavior of the object can be optimally estimated in consideration of current parameters* such as speed and acceleration).

Regarding claim 7*, Simon discloses* the method as recited in Claim 5, in which an alternation of the classification results between dissimilar object classes is

evaluated as a rejection of a classification of the object (206) *(see paragraph [0004] From an optional classification function, the method according to the present invention receives the object types--e.g. pedestrian, bicyclist, small motor vehicle, medium motor vehicle, large motor vehicle or truck--in order to determine, using that information and a predefined dynamic vehicle model (one for each specific vehicle class, and optionally as a function of a vehicle behavior model), the collision probability and hazard probability. Each object has a dynamic model of this kind assigned to it, so that the future behavior of the object can be optimally estimated in consideration of current parameters* such as speed and acceleration).

Regarding claim 8, *Simon discloses* , the method as recited in one of Claims 1 to 7, in which classification results of a classification method (100) are evaluated for objects in the surroundings of a vehicle (1) *(see paragraph [0004] classification and [0010] This means that the other objects--for example pedestrians, bicyclists, and other vehicles--surrounding the first object--for example a vehicle--are sensed using a sensor suite such as a pre-crash sensor suite, so that they can be classified and have motion parameters assigned to them. The own-vehicle values are retrieved from internal data sources, i.e. the vehicle type, current speed, direction, and a vehicle behavior model. Such sources are thus internal sensors and memories).*

Regarding claim 9, *Simon discloses* a computer-assisted vehicle information system (3) containing connecting interfaces to vehicle sensor devices (5) for sensing

objects (206) in the surroundings of the vehicle (1), and a control circuit (11) for analyzing and classifying the sensed objects (206), set up to carry out one of the methods as defined in Claim 8 *(see paragraph [0012] a control unit in a vehicle, or a restraint system, can preferably be used in the method according to the present invention. Motor vehicles, ships, aircraft and robots are possible as objects, [0020] impact sensors are already in common use in motor vehicles. In addition, pre-crash sensors such as radar or ultrasound or video are also increasingly being used to monitor surroundings, [0021] and [0022]).*

Regarding claim 10*, Simon discloses* the vehicle information system (3) as defined in the preceding claim, containing connecting interfaces to actuator devices (13) on the vehicle (1) *(see Paragraph [0012] and [0033] Impact sensors 22 supply a signal that is used in block 27 to determine the accident risk and the activation of the actuator suite. Vehicle dynamics sensors 23 are used to track the motion of the own vehicle in block 31 and paragraph [0035]).*

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKLILU k. WOLDEMARIAM whose telephone number is (571)270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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